

REMARKS

INTRODUCTION

In accordance with the foregoing, claims 1 and 19 have been amended. Claims 3, 4, 6-16, 18 and 20-32 have been withdrawn. Claims 1, 2, 5, 17 and 19 are pending and under consideration.

CLAIM REJECTIONS

Claims 1, 2, 5, 17 and 19 were rejected under 35 USC 103(a) as being unpatentable over Murade (US 2001/0030722) (hereinafter "Murade") in view of Makiko et al. (JP 2000-122616) (hereinafter "Makiko") and Aoki et al. (US 6,177,916) (hereinafter "Aoki").

Murade discusses leads 107 that comprise a metallic film such as an aluminum film or the like, a metal silicide film, or a conductive film such as an ITO film or the like. A plurality of signal wirings 28 for driving the scanning line driving circuits 104 and the data line driving circuit 103 are led from the leads 107 to pass through the outer periphery of the substrate outside the sealing material 200. These signal wirings 28 comprise low-resistance metallic films such as aluminum films or metal silicide films which are formed at the same time as the data lines 3. When a resistance is applied as a counter measure against static, contact holes are formed in a second layer insulating film 13 so that the signal wirings 28 may be electrically connected to polysilicon films formed by the same material in the same step as the scanning lines through the contact holes. In order to supply the counter electrode potential LCCOM input from the outside through the leads 107 to the opposite substrate 31 from the liquid crystal device substrate 300, transfer terminals 106 are formed on the liquid crystal device substrate 300. The liquid crystal device substrate 300 and the opposite substrate 31 are bonded with transfer materials having a predetermined diameter and provided on the transfer terminals 106 therebetween so that the opposite electrode potential LCCOM can be applied to the counter electrode 32 of the opposite substrate 31 from the side of the liquid crystal device substrate 300. See Murade, paragraph [0092] and Figure 1.

Claims 1, 2, 5 and 17

Claim 1 recites: "...an electrode pad unit which applies an alignment signal voltage to the liquid crystal panel for alignment of the liquid crystal filled in the liquid crystal panel... wherein the electrode pad unit is directly connected to the first switching circuit and the second switching

circuit.” Support for this amendment may be found in at least paragraph [0038] of the specification.

The Office Action relies on Murade to show this feature of claim 1. However, the Office Action does not discuss which portion of Murade or part of the drawings of Murade show the electrode pad unit of claim 1.

Referring to the leads 107 in Murade, the leads 107 are connected to the switching circuit through the buffer circuit and the data line shift registers 221. However, the electrode pad unit of the present invention as recited in claim 1 is directly connected to the switching circuit so that liquid crystal alignment is more easily performed during a liquid crystal injection process or during a packaging process. By contrast, Murade performs a liquid crystal alignment after installing the buffer circuit and shift register circuit.

Further, the leads 107 of Murade do not appear to apply an alignment signal voltage to the liquid crystal panel for alignment of the liquid crystal filled in the liquid crystal panel as is recited in claim 1 because the leads 107 are directed to the data line shift registers 221.

Further, this deficiency in Murade is not cured by Makiko or Aoki.

The technical feature of claim 1 of an electrode pad applying an alignment signal voltage to the liquid crystal panel (instead of just for a driving circuit) where the electrode pad unit is directly connected to the first switching circuit and the second switching circuit provides that a liquid crystal alignment process can be easily performed during a liquid crystal injection process and after a packaging process. Accordingly, when a commercial device using ferroelectric liquid crystal (FLC), for example, an engine for a direct view type LCD and/or an LCoS projection television is manufactured, uniformity and stability of liquid crystal alignment can be obtained.

Claims 2, 5 and 17 depend on claim 1 and are therefore believed to be allowable for at least the foregoing reason.

Withdrawal of the foregoing rejection is requested.

Claim 19

Claim 19 recites: “...an electrode unit to supply an alignment signal voltage to the liquid crystal panel... wherein the electrode pad unit is directly connected to the first switching circuit and the second switching circuit.” Support for this amendment may be found in at least

paragraph [0038] of the specification. It is respectfully submitted that neither Murade, Makiko nor Aoki discuss these features of the claim 19.

Withdrawal of the foregoing rejection is requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: February 6, 2008

By: Gregory W. Harper
Gregory W. Harper
Registration No. 55,248

1201 New York Avenue, N.W., 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501